

REMARKS

Status of Claims

Claims 1, 3, 6, and 8 have been objected to for various informalities.

Claims 1-2 have been rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent Application Pub. No. 2003/0005355 to Yanai et al. ("Yanai") in view of U.S. Patent Application Pub. No. 2001/0025338 to Zumkehr et al. ("Zumkehr").

Claims 3-9 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Yanai in view of Zumkehr, and further in view of U.S. Patent Application Pub. No. 2003/0041284 to Mambakkam et al. ("Mambakkam").

Claims 1, 3, and 6 have now been amended.

Claims 1-9 remain pending.

Objections to claims 1, 3, 6, and 8

With respect to claim 1, the Office Action states that the phrase "a plurality of first commands" should be "a plurality of the first command". Claim 1 has now been amended to replace two instances of the phrase "a plurality of first commands" with the phrase "a plurality of the first command".

With respect to claims 3 and 6, the Office Action states that these claims appear to depend from claim 2, rather than claim 1. Claims 3 and 6 have now been amended to depend from claim 2, rather than claim 1.

With respect to claim 8, the Office Action states that claim 8 appears to depend from claim 1. Applicants, however, believe that no such change is required.

The subject matter of claim 8 relates to the removal of the second recording medium. The feature “the removal of the second recording medium” appears in claim 9, the scope of which is broader than that of claim 8. Therefore, claim 8 correctly depends from claim 9.

Applicants accordingly submit that these objections have now been overcome.

Rejection of claims 1-2 under 35 U.S.C. § 103(a)

The Office Action states that Yanai teaches all of Applicants’ recited elements except the method of executing the plurality of first command in the order which they were stocked, which Zumkehr allegedly teaches.

Applicants’ claimed invention recites an information processing apparatus. The processing apparatus includes a first recording medium reading portion that is capable of reading out electronic information from the first recording medium, and a second recording medium reading/writing portion that is capable of reading out and writing electronic information from and in the second recording medium. The second recording medium reading/writing portion is coupled to the first recording medium reading portion for the exchange of electronic information. The processing apparatus further includes an operating member which starts recording, by the second recording medium reading/writing portion, of the electronic information output by the first recording medium reading portion. The processing apparatus additionally includes a first control means for controlling the first recording medium reading portion, a cache which stocks electronic information to be written in the second recording medium before the electronic information is written in the second recording medium, and a second control means for exchanging electronic information with the first control means via a predetermined interface means and controlling the second recording medium reading/writing portion and the cache.

The first control means reads out a plurality of electronic information from the first recording medium with the first recording medium reading portion in accordance with an operation of the operating member, and transmits the plurality of read out electronic information to the second control means together with first commands to request writing of the read out electronic information in the second recording medium. The second control means stocks in the cache a plurality of the first command and the respective electronic information associated therewith which have been transmitted from the first control means, and writes in the second recording medium the electronic information stocked in the cache by executing the plurality of first command in the order in which they were stocked.

The first control means transmits a second command which is different from the first command, and to which the second control means responds with a predetermined command after transmitting to the second control means all electronic information to be written in the second recording medium. Further, the first control means determines that transfer of the electronic information from the first recording medium to the second recording medium has been completed when a response to the second command is sent back from the second control means to the first control means.

In contrast to Applicants' recited invention, Yanai discloses a primary data storage system that is linked to a geographically remote secondary data storage system for automatically maintaining a remote copy of the data in the primary storage. The primary data storage system controller uses write pending indicators to control and coordinate the remote copy process. In response to receipt of data from the host computer, a first write pending indicator is set to write the data into at least one primary data storage device, and a second write pending indicator is set to copy the data to the secondary data storage system controller. The first write pending

indicator is reset after the data is written to the primary data storage device, and the second write pending indicator is reset after receiving an acknowledgement back from the secondary data storage system controller.

The examiner cites the combination of claim 1, third indentation, and claim 3 of Yanai as teaching Applicants' claimed limitation that "the first control means transmits a second command which is different from the first command, and to which the second control means responds with a predetermined command, after transmitting to the second control means all electronic information to be written in the second recording medium", and "wherein the first control means determines that transfer of the electronic information from the first recording medium to the second recording medium has been completed when a response to the second command is sent back from the second control means to the first control means." Applicants submit that the cited passages of Yanai do not contain such teaching and have been misinterpreted.

Yanai discloses that only data is transmitted from the first data storage system to the second data storage system, and that the second write pending indicator is set to copy the data to the second storage system controller (See claim 1, fourth paragraph, lines 4-8, and paragraphs 0045-0047 of Yanai). The process of setting the write pending indicator (i.e., a bit) is not equivalent to transmitting a second command along with the transmitted data to the second data storage system. The write pending indicator taught by Yanai is simply a local bit on the data storage system that is set or reset depending on that status of data transmission (See paragraphs 0045-0047 of Yanai). Hence, Yanai does not disclose that the second write pending indicator is transmitted with data from the first data storage system to the second data storage system. Therefore, Yanai does not disclose that the first control means transmits a second command

which is different from the first command, as recited in Applicants' independent claim 1.

Further, Yanai discloses that the acknowledgment is sent from the second data storage system to the first data storage system when the data is written into the second data storage system (See claim 1, fourth paragraph, lines 11-13 of Yanai). Yanai does not disclose that the second data storage system sends the acknowledgment to the first data storage system responding to any command sent from the first data storage system. Therefore, Yanai does not disclose "wherein the first control means transmits a second command which is different from the first command, and to which the second control means responds with a predetermined command, after transmitting to the second control means all electronic information to be written in the second recording medium", as recited in Applicants' independent claim 1.

Moreover, Applicants' independent claim 1 recites that "the first control means reads out a plurality of electronic information from the first recording medium with the first recording medium reading portion in accordance with an operation of the operating member and transmits the plurality of read out electronic information to the second control means together with first commands to request writing of the read out electronic information in the second recording medium." Because the plurality of electronic information is transmitted from the first control means to the second control means, it is difficult for the second control means to recognize when transmission of all electronic information is completed without any notification from the first control means. Therefore, Applicants' independent claim 1 includes the additional limitation that "the first control means transmits a second command which is different from the first command, and to which the second control means responds with a predetermined command, after transmitting to the second control means all electronic information to be written in the second recording medium."

In contrast to Applicants' recited invention, Yanai does not disclose any information about which of a plurality of electronic information is sent from the first data storage system to the second data storage system. Yanai merely discloses that one lump of data is sent from the first data storage system to the second data storage system. Therefore, Yanai does not teach or suggest that the first data storage system sends a second command to the second data storage system after all data is sent to the second data storage system, as expressly described by Applicants.

Yanai, therefore, does not teach an information processing apparatus in which "the first control means transmits a second command which is different from the first command, and to which the second control means responds with a predetermined command, after transmitting to the second control means all electronic information to be written in the second recording medium", as recited in Applicants' independent claim 1.

Also in contrast to Applicants' recited invention, Zumkehr discloses systems and methods for transient error recovery in pipelined reduced instruction set computer (RISC) processors that prevent state changes based on the execution of an instruction until execution of the instruction is validated. If a transient fault occurs causing an error to appear in an instruction execution, the instruction is retrieved using an instruction fetch address associated with that instruction and stored in a pipeline history cache. The RISC processor pipeline is then restarted with that instruction. This validation of the execution of an instruction may take place in the execution stage, although processors with high clock frequencies may include a separate validation stage in the pipeline so that there is adequate time to validate execution of the instruction without having to decrease the clock frequency.

Zumkehr does not, however, teach or suggest Applicants' claimed limitation that the first control means transmits a second command which is different from the first command and that the second control means responds with a predetermined command to the second command transmitted from the first control means after transmitting to the second control means all electronic information to be written in the second recording medium, as is recited in Applicants' independent claim 1.

In view of the foregoing, Applicants submit that Yanai and Zumkehr, whether taken alone or in combination, fail to teach or suggest the subject matter recited in Applicants' independent claim 1. Specifically, Yanai and Zumkehr neither teach nor suggest an information processing apparatus in which the first control means transmits a second command which is different from the first command, and to which the second control means responds with a predetermined command, after transmitting to the second control means all electronic information to be written in the second recording medium.

Claim 2, which depends directly from the independent claim 1, incorporates all of the limitations of independent claim 1 and is therefore deemed to be patentably distinct over Yanai and Zumkehr for at least those reasons discussed above with respect to independent claim 1.

Rejections of claims 3-9 under 35 U.S.C. § 103(a)

The Office Action further states that the combination of Yanai, Zumkehr, and Mambakkam teaches the subject matter recited in dependent claims 3-9.

As previously discussed, Yanai and Zumkehr do not teach or suggest the subject matter recited in Applicants' independent Claim 1. Specifically, Yanai and Zumkehr do not teach or suggest an information processing apparatus in which the first control means transmits a second

command which is different from the first command, and to which the second control means responds with a predetermined command, after transmitting to the second control means all electronic information to be written in the second recording medium.

Because Yanai and Zumkehr do not teach or suggest the subject matter recited in independent Claim 1, and because Mambakkam does not teach or suggest the elements of claim 1 that Yanai and Zumkehr are missing, the addition of Mambakkam to the reference combination does not remedy the non-obviousness of the claims.

Claim 3-9, which depend directly or indirectly from the independent claim 1, thus incorporate all of the limitations of independent claim 1 and are therefore deemed to be patentably distinct over Yanai, Zumkehr, and Mambakkam for at least those reasons discussed above with respect to independent claim 1.

Conclusion

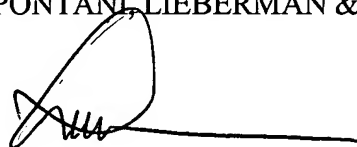
Based on the foregoing, Applicants submit that the present application is now in proper condition for allowance. Prompt and favorable action to this effect, and early passing of the application to issue, are respectfully solicited.

Should the Examiner have any comments, questions, suggestions, or objections, the Examiner is respectfully requested to telephone the undersigned in order to facilitate reaching an early resolution of any outstanding issues.

Respectfully submitted,

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